

REMARKS

Claims 21-23, 26-27, and 32-34 remain pending after amendment.

Claim Amendments

Claims 24, 25, 28-31, and 35-38 are cancelled. Claim 21 is amended to more clearly define the claimed invention by stating that the last step comprises "patterning an orientation pattern at a predetermined portion of the orientation material using a laser beam". Support for this amendment resides at page 5, lines 12-15 of the specification, as well as cancelled claims 24, 25, 29, 30 and 37. No new matter is added by this amendment.

Applicants' Invention

Applicants' invention is directed to a method of forming an orientation film on a substrate comprising:

providing a substrate on a stage, the substrate facing downwardly from a bottom-facing surface of said stage;

positioning a slit coater having a slit nozzle adjacent to and spaced from the substrate a distance corresponding to the desired thickness of said orientation film ; and

spraying an orientation material having a surface tension on the substrate through the slit nozzle of the slit coater while maintaining the surface tension of the orientation material. The orientation material is coated on the stage at a speed which maintains the surface tension, followed by patterning an orientation pattern at a predetermined portion of the orientation material using a laser beam.

Applicants' invention is neither disclosed nor suggested by the prior art.

Rejection of Claims 21, 23, 28, 31 and 35 under 35 USC 103(a)

Claims 21, 23, 28, 31 and 35 stand rejected under 35 USC 103(a) as being unpatentable over Sandock '754 in view of Slitcoater Model CFPR R-1198. This rejection respectfully is traversed to the extent deemed to apply to the claims as amended.

Sandock is directed to a process for applying fluid on discrete substrates, whereby the fluid may be applied to both sides of a substrate.

The Examiner acknowledges that the reference fails to disclose at least the following limitations: (1) orientation material being coated at a speed which maintains surface tension; (2) a predetermined portion of the film is patterned; (3) the formation of an orientation material; (4) the use of a slit coater and slit nozzle.

However, the Examiner takes the position - without factual basis - that such limitations are either obvious over or inherent in the Sandock reference. Most importantly, the Examiner takes the position that the it is an inherent aspect of the invention of Sandock that the coating occurs under conditions which maintain a surface tension. Sandock, however, is completely silent with respect to this limitation, nor can the teachings of the reference be extrapolated in the manner undertaken by the Examiner to satisfy this limitation.

In order to further distinguish over the reference, claim 21 is amended to require the additional patterning of an orientation pattern at a predetermined portion of the orientation material using a laser beam. The cited references are silent with respect to this limitation.

The rejection is thus without basis and should be withdrawn.

Rejection of Claims 22, 32-34 and 36 under 35 USC 103(a)

Claims 22, 32-34 and 36 stand rejected under 35 USC 103(a) as being unpatentable over Sandock '754 in view of Slitcoater and Matsuda et al. This rejection respectfully is traversed to the extent deemed to apply to the claims as amended.

The deficiencies of Sandock are discussed at length above. The additional citation of the Matsuda et al reference does not cure the deficiencies of Sandock.

Matsuda is cited to teach the thickness of the orientation material. However, the reference is otherwise silent regarding the method steps of the independent claims. In view of the deficiencies of Sandock, and the failure of Matsuda to cure same, the rejection is without basis and should be withdrawn.

Rejection of Claims 24-27, 29-30 and 37-38 under 35 USC 103(a)

Claims 24-27, 29-30 and 37-38 stand rejected under 35 USC 103(a) as being unpatentable over Sandock '754 in view of Slitcoater and Takahashi. This rejection respectfully is traversed to the extent deemed to apply to the claims as amended.

In response, claims 24, 25, 29-30 and 37-38 are cancelled.

With respect to the remaining rejected claims, the deficiencies of Sandock are discussed at length above. The additional citation of the Takahashi reference does not cure the deficiencies of Sandock.

Takahashi is cited to teach the use of laser patterning a pattern on a resist film. However, the reference is otherwise silent regarding the method steps of the independent claims. In view of the deficiencies of Sandock, and the failure of Takahashi to cure same, the rejection is without basis and should be withdrawn.

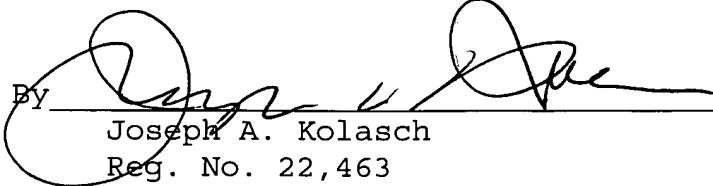
The application is now believed to be in condition for allowance and an early indication of same is earnestly solicited.

In the event that any outstanding matters remain in this application, Applicants request that the Examiner contact James W. Hellwege (Reg. No. 28,808) at (703) 205-8000 to discuss such matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Very truly yours,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 
Joseph A. Kolasch
Reg. No. 22,463
P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000


JAK/JWH